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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/708,020

11/08/2000

TERUYUKI TAKATA

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06/07/2004

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EXAMINER

LEE, TOMMY D

ART UNIT

PAPER NUMBER

2624

DATE MAILED: 06/07/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/708,020

Applicant(s)

TAKATA ET AL.

Examiner

Thomas D. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8, 17, 18, 25-27 and 30 is/are allowed.
- 6) ☒ Claim(s) 9-13, 15, 16, 19-24, 28, 29 and 31 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4 and 7</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 12 and 19-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites the limitation "the designated dither matrix" in line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

There is no period at the end of claim 19, and thus it is unclear whether applicant intended to recite any additional limitations. Claims 20-22 depend from claim 19.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 9-11, 13, 15, 16, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Publication 07-057077 (Yoshiyuki).

Regarding claims 9-11, Yoshiyuki discloses an image processing apparatus that performs designated processes on a normal orthogonally transformed image, said image processing apparatus comprising: a noise adding unit that adds designated noise to said image that has undergone said normal orthogonal transformation (random-noise addition means, read paragraph [0004] of English translation); a reverse transformation unit that performs a reverse normal orthogonal transformation, which is a reverse transformation of said normal orthogonal transformation, on said noise-added image (reverse orthogonal transformation means (paragraph [0004])); a binarization unit that binarizes said image, which has undergone said reverse normal orthogonal transformation, using a designated threshold value (display or airline printer (paragraph [0021] binarizes image data (paragraph [0002]), use of designated threshold value inherent in binarization); and an output unit that outputs said binarized image by display or printing (above-mentioned display or airline printer). Elimination of high frequency components is a natural consequence of the discrete cosine transformation (paragraph [0020]) performed by Yoshiyuki.

Regarding claims 13, 15 and 16, Yoshiyuki discloses an image processing system that transfers images from a sending device to a receiving device, wherein said sending device comprises: a noise adding unit that adds designated noise to an image

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which has undergone normal orthogonal transformation (random-noise addition means (paragraph [0004])); and a sending unit that sends said image to which said noise has been added via a communication path (orthogonally transformed data with added noise sent from random-noise addition means 6 to reverse orthogonal transformation means 7 (note drawing 1 (page 7 of Japanese publication) via communication path (transformation data with added noise "communicated" by random-noise addition means)), wherein said receiving device comprises: a receiving unit for receiving said sent image (reverse orthogonal transformation section receives transformation data with added noise from random-noise addition means (drawing 1)); and a reverse transformation unit for performing reverse normal orthogonal transformation, which is a reverse transformation of said normal orthogonal transformation, on said received image (reverse orthogonal transformation means (paragraph [0004])). Said receiving device further comprises a binarization unit that binarizes said image, which has undergone said reverse normal orthogonal transformation, using a designated threshold value (display or airline printer (paragraph [0021] binarizes image data (paragraph [0002]), use of designated threshold value inherent in binarization); and an output unit that outputs said binarized image by display or printing (above-mentioned display or airline printer).

Regarding claims 23 and 24, Yoshiyuki discloses an image processing method that performs designated processing on a normal orthogonally transformed image, said image processing method comprising the steps of: (a) adding designated noise to said image that has undergone said normal orthogonal transformation (random-noise

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addition means (paragraph [0004])); (b) performing reverse normal orthogonal transformation, which is a reverse transformation of said normal orthogonal transformation, on said image with said noise added (reverse orthogonal transformation means (paragraph [0004])); (c) binarizing said image, which has undergone said reverse normal orthogonal transformation, using a designated threshold value (display or airline printer (paragraph [0021] binarizes image data (paragraph [0002]), use of designated threshold value inherent in binarization); and (d) outputting said binarized image by display or printing (above-mentioned display or airline printer).

Regarding claim 29, Yoshiyuki discloses a computer readable medium that stores an image which is obtained by adding designated noise to a normal orthogonally transformed image (memory used when image output section, which receives

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 28, 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshiyuki.

Claims 28, 29 and 31 recite a computer program product, a computer readable medium, and a data signal embedded in a carrier and representing a computer program, respectively, causing a computer to perform the steps recited in above-rejected claim 23. While not explicitly disclosed in Yoshiyuki, it is well known in the art to store image- processing steps, in general, in a computer readable medium. This feature, as known in the art, enables a computer to perform the image processing steps without the need for specific image processing hardware, and thus it would have been obvious for one of ordinary skill in the art to provide a computer program product or a computer readable medium or a data signal embedded in a carrier and representing a computer program, for performing the processing steps recited in these claims.

Allowable Subject Matter

10. Claims 1-8, 17, 18, 25-27 and 30 are allowed.

11. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claims 12 and 19-22 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: No prior art has been found to disclose or suggest adding noise to an image having undergone a normal orthogonal transformation, the noise being obtained by performing the same transformation as said normal orthogonal transformation on a designated dither matrix, as recited in independent claims 1, 17, 19, 25 and 30, and dependent claims 12 and 14.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Lee whose telephone number is (703) 305-4870. The examiner can normally be reached on Monday-Friday (7:30-5:00), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (703) 308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thomas D. Lee
Primary Examiner
Art Unit 2624

tdl
May 26, 2004